DOCUMENT RESUME

ED 373 626 HE 027 612

AUTHOR Underwood, David G.; And Others
TITLE Sometimes More Is Better: Development and Implementation of a Graduate Alumni Survey To Increase Response Rates and Evaluate Strategic Planning. AIR 1994 Annual Forum Paper.
PUB DATE May 94
NOTE 25p.; Paper presented at the Annual Forum of the Association for Institutional Research (34th, New Orleans, LA, May 29-June 1 1994).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Alumni; Attitudes; Graduate Study; *Graduate Surveys; Higher Education; *Research Design; Response Rates (Questionnaires); *Strategic Planning; Surveys
IDENTIFIERS *AIR Forum; Alumni Relations; Survey Research

ABSTRACT

This study explored the utility of developing an alumni survey specifically designed for graduate alumni to increase response rates and provide specific information for planning. The previous year's survey of graduate alumni had seen a very low participation rate and those that had responded offered several negative comments on the survey design. Various representatives of the Graduate School and the Assessment Committee developed a new survey to provide data which would distinguish graduate student programs from undergraduate programs, assist in program improvement, and obtain feedback on relevant components of the strategic plan. Development included a review of surveys used by other universities many of which proved to be narrowly focused on a particular school or department. Items were drawn from previously developed alumni surveys with many items revised to target the graduate experience. Potential survey items were reviewed by a panel of current graduate students with an assessment director making final selections and the Graduate School doing a final review. The new survey was mailed to 1,199 alumni of two recent graduating classes. Response rate was 30.34 percent, a 105 percent improvement from the previous year. The number of omitted items on returned surveys also significantly decreased. (Contains 11 references and 6 tables.) (JB)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED 373 626

# Sometimes More Is Better: Development and Implementation of a Graduate Alumni Survey to Increase Response Rates and Evaluate Strategic Planning

David G. Underwood

Director of Assessment and Assistant Professor of Education

114 University Square, Clemson University, Clemson, SC 29634 (803)656-0868

Eleanor W. Nault

Ph.D. Graduate Assistant, Office of Assessment

114 University Square, Clemson University, Clemson, SC 29634 (803)656-1078

Loretta S. Ferguson

Ph.D. Graduate Assistant, Office of Assessment

114 University Square, Clemson University, Clemson, SC 29634 (803)656-1078

NE027 612

Running Head: GRADUATE ALUMNI SURVEY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

AIR

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

*for Management Research, Policy Analysis, and Planning*

This paper was presented at the Thirty-Fourth Annual Forum of the Association for Institutional Research held at The New Orleans Marriott, New Orleans, Louisiana, May 29, 1994 - June 1, 1994. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Jean Endo
Editor
Forum Publications

Abstract

Alumni surveys are not only good sources of data for institutions to use in their decision making efforts, but in some states they are required by the legislature or state coordinating boards or both. An Alumni Survey is required at this large, land grant, research university, by both the legislature and the Commission on Higher Education (CHE). Past survey results show that undergraduate and graduate alumni have significantly different response rates to identical alumni surveys. This study discusses the utility of developing an alumni survey specifically designed for graduate students to increase response rates and provide specific information for strategic and program planning. Both the method used to develop the survey and the results obtained are discussed.

Sometimes More Is Better: Development and Implementation of a Graduate Alumni Survey to Increase Response Rates and Evaluate Strategic Planning

Alumni surveys are frequently used by institutions as one method of assessing programs and services and providing feedback for improvement. Erwin (1991) discusses a variety of uses for such surveys ranging from satisfaction to self-ratings. The use of alumni surveys is such a functional part of an assessment effort that some states have required them (Astin, 1991).

It happens that South Carolina is one of those states in which an Alumni Survey is required by both the legislature and the Commission on Higher Education (CHE). Because of additional requirements by the CHE related to regular program review, this large, land grant, research university, sends the alumni survey to the population rather than a sample. Out of nearly 7,000 surveys, sent to both undergraduate and graduate alumni, the response rates usually vary between 30 % and 34 %.

Although both graduate and undergraduate alumni can provide general information about the university, only graduate students are uniquely qualified to provide information about graduate admissions, the graduate school, graduate programs, and graduate school policies. At this institution, there are also aspects of the University's Strategic Plan specific to graduate students. Some of the relevant strategic planning initiatives focus on participation in co-op or internship programs, work-load of graduate assistants in conjunction with their course work, adequacy of instructional strategies for first-time instructors including graduate teaching assistants, and on-going professional development program in teaching. Responses from graduate alumni on these and other issues can provide evidence of the success or failure of the Strategic Plan.

Alumni from graduate programs are a specific group of growing importance. The size of the graduate population at this university has increased by 105 % from 1983 to 1992. The dramatic increase in graduate enrollment indicates a need to obtain better information about programs, services, and strategic planning objectives from an increasingly larger group of

alumni who are particularly qualified to comment on these areas. Past surveys sent by this university to alumni have included both undergraduate and graduate populations in its data collection efforts although nearly 2,000 of the 7,000 in the last effort alumni are from graduate programs (master and doctoral level).

Evidence from past surveys suggests that graduate alumni from this university possess different attitudes, needs, and expectations during their academic career. An analysis of the response patterns of the previous year's survey indicates that graduate students tend to differ in at least three patterns of responses: they provide more negative comments about the relevance of specific questions, they leave more questions unanswered on the surveys they complete and return, and they fail to return the surveys more frequently than undergraduates.

The following statements are examples of graduate alumni comments on the relevance of items from the 1992 survey:

1. These questions are mostly not applicable to one who attended graduate school only.
2. Many of these questions are more pertinent to the undergraduate experience than to the Ph.D. program. I would take answers from grad students separately because important issues are quite different from those for undergraduates - my answers probably indicate a lack of satisfaction with (this university) only because the questions are inappropriate.
3. This questionnaire is not written well for graduate students who are part-time. Many of the questions simply do not apply.
4. Aimed at undergraduates, not at graduate students.
5. Stupid question for "graduate" program.

In addition to making more negative comments about the relevance of questions, the graduate alumni also left more questions unanswered. Several questions were examined and a sample selected for additional analyses. The frequencies of unanswered questions in this sample were analyzed by calculating a Chi-square on a two by two table in which the rows represented the two levels of classification (undergraduate or graduate) and the columns represented the two response categories (did responded or did not respond). The following examples of questions from the alumni survey illustrate the difference in item response rates between the undergraduate

and graduate alumni. In each case the graduate alumni were found to be less likely to respond to the question than the undergraduate students:

1. Question 3g, "Please rate your level of agreement with each of the following: laboratory facilities were conducive to learning." $\chi^2(1, N = 1111) = 56.470$, $p<.000$.
2. Question 3j, "Please rate your level of agreement with each of the following: foreign TA's and instructors generally spoke very good English". $\chi^2(1, N = 1111) = 103.437$, $p<.000$.
3. Question 4c, "Please rate your satisfaction with the quality of your general education program of study (non-major degree requirements)." $\chi^2(1, N = 1105) = 244.077$, $p<.000$.
4. Question 4d "Please rate your satisfaction with the quality of instruction in your general education program." $\chi^2(1, N = 1110) = 234.090$, $p<.000$.

In addition to the two previously mentioned, another area of concern was the difference in survey response rates between undergraduate and graduate alumni. An analysis of the rate of return revealed an undergraduate alumni response rate of 34.7 % and a graduate alumni response rate of only 15.7 % for the 1992 survey. The noted differences in perceived relevance, item response, and return rates provided the incentive for developing a separate survey for the graduate alumni population.

Recent research includes relevance, salience, and comfort as vital factors to response rates (Werner, 1993). Werner notes that an individual may be more likely to justify the time and effort needed to fill out a survey if the questions are relevant to the purpose of the survey and do not make the respondent uncomfortable. Heberlein and Baumgartner (1978) found that the more salient a survey is to the individual, the greater the impact on raising return response rates. The negative comments and poor response rates, both in terms of item responses and survey returns, on the previous survey would appear to indicate a weakness in these three areas when applied to graduate alumni.

As a result of the previous findings, the Assessment Committee in conjunction with the Graduate School decided to discontinue the practice of sending the same survey to undergraduate and graduate alumni. Instead, a survey was developed specifically for graduate alumni to provide information for program improvement and provide an indication of progress

on strategic planning initiatives. The survey was designed and sent to alumni from all graduate programs (master level and higher), covering all departments offering graduate degrees. The primary objective for the new survey was to increase graduate alumni response rates. The objective was to be accomplished by developing a survey for graduate alumni which was more relevant to graduate programs and issues.

## Method

### Development of Instrument

The development of the graduate alumni survey was a cooperative effort involving various representatives of the Graduate School and the Assessment Committee. The goals for the survey were:

- to provide data that distinguishes graduate student programs from undergraduate student programs;
- to assist the Graduate School and each college in the continual improvement of its graduate program; and,
- to obtain feedback on relevant components of the Strategic Plan.

The development of the instrument commenced with a review of surveys that had been used by the University of Alabama (Alabama, 1990), Georgetown University (Pettit, 1992), and Clemson University (Clemson, 1992; Werner, 1993). In searching for valid, reliable scales and instruments, it became apparent that most surveys addressed one particular program or college, surveyed current graduate students, or focused on a small number of factors (i.e. only doctorate candidates, or only addressed graduate committee relations). These surveys failed to address graduate alumni and their overall satisfaction with the school, their department, and their program.

With a narrow subject matter focus, the usefulness of other surveys for the purpose of measuring overall satisfaction was limited. Craig and Freeman (1986) reported on alumni responses from only one department and from only one degree level. A study of Michigan University's College of Education focused on specific course work, the quality of guidance committees, and the quality of the dissertation experience (Craig & Freeman, 1986). Roney

(1990) also reported on the findings of College of Education graduate students; however, no registration and recruitment items are included in the survey. Furthermore, Roney did not investigate the attitude of the graduate students in regard to the campus climate (i.e. safety). Similar limits are noted in the University of Tennessee Knoxville survey (Fowler, 1989).

This graduate alumni survey blanketed all graduate programs (master level and higher) and covering all departments offering graduate degrees. It also addressed a broader range of topics including class size, perceived competencies of faculty, recruitment and campus climate issues, and factors relating to the strategic plan identified above. In general, this graduate alumni survey took a more comprehensive approach to the graduate alumni population than previous research.

Items were drawn from the current alumni survey and the two previously mentioned surveys. Those items on the existing survey which graduate students had either written negative comments about, or failed to respond to, were examined and either rewritten or deleted. All other items, new or rewritten from other institutions' surveys, were examined for relevancy. This method created a pool of potential items. The items were reviewed by a panel of current graduate students from the Office of Assessment, with the Assessment Director making the final selection. The Graduate School then examined the instrument, providing input about any questions to be added, deleted, or modified. Items thought to provide useful demographic information were included. After this review, the items were grouped according to subject matter.

The final format contained four groups of questions on the first page, including influences to attend this university, the Graduate School, facilities and campus climate, and skill enhancement. The second page included questions about employment and demographics of the student, and twenty-six questions on the last page addressed courses and faculty. The first six questions about decision to attend this university used a five point Likert-type scale ranging from

unimportant to very important. All other items on the first and third pages used a five point Likert-type scale ranging from strongly disagree to strongly agree.

Materials

The survey was printed on 11" by 17" paper and folded into an 8 1/2" by 11" document which was then triple folded to fit in a standard envelope. Included in each envelope mailed to the graduate alumni was a post-paid, return address envelope. The first page of the survey consisted of a letter from the Dean of the Graduate School requesting alumni participation in the survey. The remaining three pages contained the survey items.

The name and address of each alumni was printed on a label and affixed to each envelope. The return address was printed directly on the envelope. First class mail rather than bulk rate was used to allow forwarding of the surveys. Furthermore, as previously mentioned, the letters were mailed only to those candidates in the fifty United States and the District of Columbia. This procedure was identical to the procedure used in the previous year, in order to allow a more legitimate comparison of response rates.

Procedure

The survey was sent to one and three year out graduates on white and buff paper respective'y. The name, address, major code, last degree, and social security number were provided by the Alumni Relations Office. The surveys were mailed the last week in August 1993.

Subjects

The survey was mailed to 1199 alumni of the 1990-91 and 1992-93 graduating classes. The survey was not sent to any alumni with an overseas address, a procedure that was consistent with the selection process of the previous survey recipients. As displayed in Table 1, 93 % of the graduates received master degrees and seven percent received either Doctor of Philosophy or Doctor of Education degrees. The recipients were distributed among the nine

colleges of the university (see Table 2), with the largest percentage (26 %) from the College of Education and the smallest from the College of Nursing (1 %).

## Results

The response rate for the graduate survey was 30.34 % with 361 out of 1199 surveys returned, an improvement of approximately 105 % from the previous year. Given this change, an examination of the make-up of the respondents, in contrast to the current graduate school, was conducted.

The population of the graduate school as of Fall, 1992 was 53.1 males and 46.9 females. The respondents were 60.2 % males and 39.8 % females. The difference should be viewed with caution for two reasons. First, there was insufficient coding in the data base to determine an actual breakdown by gender in the alumni population to which the survey was mailed. Thereby making a direct comparison impossible. Second, the possibility of range restriction may exist because the survey was only mailed to United States addresses and 17.6 % of the enrolled graduate students in the Fall of 1992 were international students.

The graduate alumni responding to the survey reflected a pattern similar to those alumni the survey was mailed (see Tables 1 and 2). Because the percentages appeared to be almost identical, statistical analyses were not performed. Likewise, the breakdown of the respondents by college is notable (see Table 2) because of a high degree of agreement between the percent of the total each college represented in the outgoing surveys and the percent of the total each college represented in the returned surveys. The percent of the respondents from the College of Agriculture and the College of Liberal Arts was exactly the same as the percent those colleges represented of the total sent. Perhaps, more importantly, it was noted that all differences were three percent or less. This indicated that the responses generally reflected the complexion of the university graduates by colleges in those graduating classes.

Insert Table 1 about here

Insert Table 2 about here

Internal consistency, factor analysis, and regression analyses were conducted using P.C. SAS for Windows Version 6. Internal consistency was measured by computing Cronbach's alpha coefficient on each of the six groups of questions. The three largest groups of questions had alpha coefficients above .74. The alpha coefficients were as follows: Graduate School (.85), Skill Enhancement (.75), and Courses and Faculty (.89). The other three groups had 5 items or fewer, making high alphas difficult to obtain. The entire survey had an alpha of .90.

An exploratory factor analysis was conducted on the final 26 items pertaining to courses and faculty. Six factors were found using the principle components method of factor analysis with varimax rotation; for inclusion, eigen values were required to be greater than one. These six factors accounted for over 61 % of the variance. The sixth factor contained one item, question 67 speaking to course rigor. This item had a low factor loading value of .53. The remaining five factors and their titles are presented in Table 3. Items loading on each of the factors were treated as subscales and examined for internal consistency by computing a Cronbach's coefficient alpha. The alpha coefficients for each factors are displayed in Table 4.

Insert Table 3 about here

Insert Table 4 about here

Exploratory stepwise regression analyses were conducted for the two overall statements about recommending the department (question 74) and the graduate school (question 75) to friends. Using all the other items (48 through 72) in the Courses and Faculty section, an interesting pattern emerged (see Table 5). Agreeing to advise a friend to study in the department (Question 74), was dependent on the graduate alumni considering the graduate program to be

Insert Table 5 about here

one of the best in the field (Question 73), believing that faculty were interested in their progress as students (Question 63), and believing that courses were presented in the proper sequence (Question 48). Advising a friend to attend graduate school at this university (Question 75) was dependent on the graduate alumni considering the graduate program to be one of the best in the field (Question 73), believing that a degree from this university requires hard work (Question 52), believing that staff members in the department office were helpful (Question 72), and believing the program exposed the graduate alumni to the broad range of human knowledge (Question 60).

Four colleges had sample sizes large enough to examine individually (n>30). The following is a breakdown of the questions that were predictive of questions 74 and 75, by college (Table 6).

Insert Table 6 about here

Perhaps one of the most informative aspects of this analysis was the surprising number of times that recommendations to study in the department (Question 74) or to attend graduate school at this university (Question 75) were dependent on the graduate alumni belief that most of the staff members in the departmental office were helpful (Question 72). In an effort to maintain academic rigor and provide quality graduate programs, it is easy to overlook the fact that staff in the departmental offices can have a major influence on whether the graduates would recommend the program to others.

## Discussion

### Implications of Research

The primary objective was for the survey response rate for graduate alumni to significantly increase. The results clearly indicate that the response rate for the graduate alumni survey improved significantly, actually doubling. The second objective was that there would be

a significant decrease in omitted items in the survey. The 1992 survey reported the lowest item response to be 99 responses out of a possible 179. The 1993 survey reported the lowest item response rate to be 332 out of a possible 363. The 1992 survey item response gap was 80 and the 1993 survey response gap was 31; a significant reduction in omitted items. These findings lend additional support to previous research that attributes similar improvements in response rates to the relevance, comfort, and salience of the survey (Heberlein & Baumgartner, 1978; Werner, 1993).

Several factors were examined for evidence of influence to the overall increase in response rates and the decrease in omitted items. The increased rate for the graduate alumni survey was probably not attributed to the reduction in the number of pages of the overall survey. The alumni survey of 1992 was four pages in addition to a cover letter and a departmental survey. The 1993 survey was three pages and a cover letter. Werner's (1993) research indicates that a moderate change in the number of pages (from six pages to five pages) does not statistically influence the response rate. Furthermore, the number of items on the 1993 survey was reduced from approximately ninety to seventy-five items. Based on the content analysis, the number of items appeared to have less impact than the relevancy of the items.

Comments from the 1992 survey indicated that the inclusion of the student identification number on the mailing label seemed to reduce the respondent's comfort level. Therefore, the 1993 survey did not include the student identification number. This change in the survey format appeared not to have an effect on the response rate to the undergraduate alumni survey. It was therefore assumed that the increase in the response rate for the graduate survey was attributable to factors other than the removal of the student identification number from the label.

The survey provided an entry for the respondent's social security number which was also the student identification number. This information was requested so that further analysis could be done by college or so follow up surveys could be implemented. The request for the respondents demographic information, including the identification number, was placed in the

lower right quarter of the second page. This was done in order to reduce any anxiety that might have resulted from asking for this information on the first page. However, a number of respondents did not include their identification number on the form (18.5 %). This compares to 4.3 % of the undergraduates in the same survey period who failed to provide a social security number. Based on this finding, unless it is absolutely necessary to include the student identification number, another means of cross referencing should be developed. Since this university will not be using these surveys for additional research or follow-up work, the requirement for student numbers will be excluded on future surveys.

In analyzing the content of the comments, it was recognized that off-campus enrollees viewed their graduate experience differently from on-campus enrollees. For example, most off-campus enrollees indicated that they did not have assistantships, and therefore did not receive a pay check from the university. Suggested for future surveys was a new item providing for the identification of the off-campus enrollees which would allow them to skip the questions that pertain to on-campus facilities and services.

The data base of alumni students included those who completed a professional 10-week program degree. The responses from these persons might not have been indicative of the student who attended a traditional program. Being aware of the potential contamination of the data base is essential in obtaining accurate, reflective results.

The response format of question 31, "Number of semesters enrolled as a graduate student prior to receiving your degree" appeared to be too open ended. It will be reworded to ask for the number of fall, spring, and summer semesters that the alumni attended this university in future instruments.

Because many graduate students take courses outside of their department and therefore interact with other departments, current questions might be too general about the faculty. Rewording questions to specifically state "in your department" or "faculty and courses outside of your department" might make for a more precise item and provide more useful information.

Another suggested change to the survey was a direct result of the factor analysis. Question 67 had a low and negative correlation with the section total of "Faculty and Courses" (-0.15). This question will be either reworded or eliminated from future questionnaires since it did not contribute to the strength of this analysis.

The finding that different colleges had different items accounting for the variance in Question 74, "I would advise a friend with similar interests to study in this department," and Question 75, "I would advise a friend to attend graduate school at this university," could be of particular interest for departments and programs in understanding what their alumni value in respect to their degrees. A graduate student may value different services or faculty interactions depending on the college. This information could impact the approach taken in soliciting alumni for money or participation in University related activities.

Highlights of the survey results were presented to the Dean and Assistant and Associate Deans of the Graduate School. After reviewing selected responses from both the 1990-91 and 1992-93 graduates, the Graduate School representatives responded that the data appears to be useful and that it confirms some previously held beliefs. For example, the data would help support current efforts in broadening several programs on campus such as career placement in reference to graduate student services. Additionally, it was apparent that the results could be utilized as part of a workshop for graduate program coordinators and their primary staff members. The Dean indicated a willingness to share the data not only with the program directors but also with the academic deans. Furthermore, a request by the Graduate School was made for a written summary that could be used by other staff members of the Graduate School. After reviewing the summary, the Dean stated that refinement to the instrument may be necessary; however, his initial comments were enthusiastic and appreciative.

Each of the items that address specific components of the Strategic Plan were transmitted to faculty and staff members responsible for monitoring the implementation of the plan. It is of interest to note that most of the responses to these results were positive. The change between

those graduates reporting instructional strategies being provided prior to entering a classroom as a teaching assistant increased 11.4 % from the 1990-91 to the 1992-93 graduates. However, three items obtained low marks for both groups: opportunity for student input into the departmental decision-making process, working with a faculty member on a research project, and working with a faculty members on a community or university service project. Additionally, graduate students agreeing that lab facilities were conducive to learning declined 12 %. The chairperson of the Strategic Planning Committee noted that the results appeared useful and suggested that the results be forwarded to each of the departments with graduate programs as well as the Graduate Student Association.

The Office of Assessment and the Graduate School recognize the exploratory nature of this survey and analysis. It is the intent of the University to continue this program in order to accumulate trend data that may provide greater benefits to the various graduate programs as well as to the university as a whole.

References

Alabama University. (1989). The University of Alabama: Graduate student satisfaction survey 1989-90 academic year. Tuscaloosa, AL: Alabama University, Office of the President.

Astin, A. W. (1991). Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education. New York: Macmillan.

Clemson University. (1989). Clemson University Graduate Student Association survey. Clemson, SC: Author.

Craig, R. & Freeman, D. (1986). Survey of advanced degree graduates of Michigan State University: 1982-1985 academic years. (Research and Evaluation in Teacher Education: Program Evaluation Series #13). East Lansing: Michigan State University, College of Education.

Erwin, T. D. (1991). Assessing student learning and development: A guide to the principles, goals, and methods of determining college outcomes. CA: Jossey-Bass.

Fowler, F. C. & Patterson, F. (1989, November). Graduate student attitudes: An exploratory study. Paper presented at the annual meeting of the Mid-South Educational Research Association, Little Rock, AR.

Heberlein, T. A. & Baumgartner, R. (1978). Factors affecting response rates to mailed questionnaires: A quantitative analysis of the published literature. American Sociological Review, 43(4), 447-462.

Pettit, J. (1992, May). Listening to your alumni in assessing learning outcomes (Georgetown University). Handout for paper presented at the annual meeting of the Association of Institutional Research.

Roney, Robert K.; & Others (1990, April). Graduate student concerns: A study of a college of education. Paper presented at the annual meeting of the American Education Research Association, Boston, MA.

Werner, H. L. (1993). Effects of Relevance and Comfort of Survey Items on Response Rates. Unpublished master's thesis. Clemson University: Clemson, SC.

Whitener, M. A. (Ed.) (1993). 1992 Clemson University Fact Book. Clemson, SC: Clemson University: Office of Institutional Research.

Table 1

Respondents by Degree

| DEGREE | Total Sent | % of Total Sent | Total Received | % of Total Received |
|---|---|---|---|---|
| Master | 1110 | 0.93 | 326 | 0.90 |
| EDS | 3 | 0.00 | 2 | 0.01 |
| Ph.D./EDD | 86 | 0.07 | 33 | 0.09 |
| Total | 1199 | | 361 | |

Table 2

Respondents by College

| COLLEGE | Total Sent | % of Total Sent | Total Received | % of Total Received |
|---|---|---|---|---|
| Agriculture | 93 | 0.08 | 30 | 0.08 |
| Architecture | 71 | 0.06 | 27 | 0.07 |
| Commerce & Industry | 238 | 0.20 | 69 | 0.19 |
| Education | 311 | 0.26 | 82 | 0.23 |
| Engineering | 246 | 0.21 | 64 | 0.18 |
| Forest & Recreation Resources | 33 | 0.03 | 14 | 0.04 |
| Liberal Arts | 55 | 0.05 | 17 | 0.05 |
| Nursing | 15 | 0.01 | 6 | 0.02 |
| Science | 137 | 0.11 | 52 | 0.14 |
| Total | 1199 | | 361 | |

Table 3

Factors and Loading Questions for Faculty and Courses Section

| | |
|---|---|
| **Factor 1 - Academics & Teaching** | |
| 49. | The courses required for my degree adequately prepared me for employment. |
| 58. | Faculty in my department demanded and encouraged scholarship. |
| 63. | Faculty were interested in my progress as a student. |
| 64. | Faculty in my department had adequate knowledge of the field. |
| 65. | Faculty in my department were enthusiastic about their material. |
| 66. | Faculty in my department were available outside the classroom. |
| 68. | I developed a close professional relationship with at least one faculty member. |
| 73. | I consider the graduate program in my area one of the best in the field. |
| **Factor 2 - Faculty Support & Guidance** | |
| 61. | I worked with a faculty member on a research project (other than thesis or dissertation). |
| 62. | I worked with a faculty member on a community or university service project. |
| 69. | I had a professor who served as my "mentor". |
| 70. | My advisor was helpful in developing my program. |
| 71. | I frequently conferred with my advisor. |
| 72. | Most staff members in my departmental office were helpful |
| **Factor 3 - Course Availability** | |
| 48. | The courses required for my degree were in the proper sequence. |
| 51. | Most of my classes were about the right size. |
| 53. | I never had problems enrolling in required courses because all sections were filled. |
| 54. | I never had problems enrolling in required courses due to the course being canceled. |
| 55. | My courses were offered frequently enough so that I could complete my degree requirements as planned. |
| **Factor 4 - Curriculum Diversity** | |
| 56. | There was an international focus in some part of my curriculum. |
| 57. | My department provided opportunity for student input into the departmental decision-making process. |
| 59. | My university experience increased my awareness of cultural diversity. |
| 60. | My graduate program exposed me to the broad range of human knowledge. |
| **Factor 5 - Course Rigor** | |
| 50. | The courses required for my degree were rigorous. |
| 52. | A degree from this university requires hard work. |

Table 4

Cronbach Coefficient Alpha for Scales Identified by Factor Analysis of Questions 48 through Question 73, Excluding Question 67

| | Factor | Raw | Standard |
|---|---|---|---|
| 1 | Academics and Teaching | .85 | .86 |
| 2 | Faculty Support and Guidance | .81 | .81 |
| 3 | Course Availability | .73 | .72 |
| 4 | Curriculum Diversity | .72 | .72 |
| 5 | Course Rigor | .81 | .82 |

Table 5

Stepwise Regression Analyses - University Totals

Question 74

| Factor | Item | Model $R^2$ | F | Prob. > F |
|---|---|---|---|---|
| 1 | 73 | .52 | 126.89 | .0001 |
| 1 | 63 | .58 | 17.73 | .0001 |
| 3 | 48 | .61 | 10.83 | .0012 |

Note: N=194

Question 75

| Factor | Item | Model $R^2$ | F | Prob. > F |
|---|---|---|---|---|
| 1 | 73 | .37 | 28.19 | .0001 |
| 5 | 52 | .43 | 16.26 | .0001 |
| 2 | 72 | .47 | 10.32 | .0001 |
| 4 | 60 | .50 | 12.89 | .0016 |

Note: N=193

Items were entered into the stepwise regression if they were significant at the $p < .05$ level while adding at least .02 to the model R2.

Table 6

Stepwise Regression by College

| Education | |
|---|---|
| Question 74 (Factor) | Question 75 (Factor) |
| 73 (1) | 72 (2) |
| 63 (1) | 59 (4) |
| 55 (3) | 51 (3) |
| 54 (3) | 73 (1) |
| $R^2$ = .81 | $R^2$ = .76 |
| N = 40 | N = 40 |

| Commerce & Industry | |
|---|---|
| Question 74 (Factor) | Question 75 (Factor) |
| 53 (3) | 73 (1) |
| 57 (4) | 72 (2) |
| 72 (2) | 60 (4) |
| $R^2$ = .69 | $R^2$ = .64 |
| N = 36 | N = 36 |

| Engineering | |
|---|---|
| Question 74 (Factor) | Question 75 (Factor) |
| 73 (1) | 73 (1) |
| | 52 (5) |
| $R^2$ = .62 | $R^2$ = .44 |
| N = 38 | N = 38 |

| Sciences | |
|---|---|
| Question 74 (Factor) | Question 75 (Factor) |
| 65 (1) | 65 (1) |
| 73 (1) | |
| $R^2$ = .50 | $R^2$ = .32 |
| N = 33 | N = 33 |